

## **IN THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (presently amended) A method, comprising:

regulating a flow of sequentially addressed data across a network between a source node and a destination node by limiting the number of units of said data traversing said network to a set called a window such that

units are added to said window because ~~at such time as~~ their  
transmission by said source is desired ~~requested~~;

units are removed from said window because ~~at such time as~~ they  
have arrived at said destination;

units are removed from said window because ~~at such time as~~ they are  
declared to have been lost;

the total number of units within said window is bounded above by said  
limiting number of units of said data traversing said network;

the difference between the smallest address whose corresponding unit  
is contained within said window, and the largest address whose  
corresponding unit is contained within said window, is unbounded;  
and,

units are allowed to be noncontiguous.

2. (previously presented) The method of Claim 1 further comprising simultaneously adding an amount of units to said window upon.
3. (previously presented) The method of Claim 2 wherein said amount of units being added is limited to no more than the minimum of:
  - a) the difference between said limiting number and said number of units within said window;
  - b) an amount limited by a first capacity of said destination; and
  - c) an amount limited by a second capacity of said source.
4. (previously presented) The method of Claim 3 wherein said first capacity of said destination further comprises a client burst limit.
5. (previously presented) The method of Claim 3 wherein said second capacity of said source further comprises a server burst limit.
6. (previously presented) The method of Claim 2 further comprising sending a request message over said network between said source node and said destination node for one or more units of data, said units of data being among those to be added to said window.

7. (previously presented) The method of Claim 2 further comprising selecting those units to be added to said from among those units which are not currently within said window and which have not previously been received by said destination.
8. (previously presented) The method of Claim 7 wherein said selection of units to be added to said window prefers units with earlier addresses.
9. (previously presented) The method of Claim 1 wherein said sequentially addressed data corresponds to a contiguous portion of a response requested from said source by said destination.
10. (previously presented) The method of Claim 9 wherein said response is the result of an action or process carried out by said source at the request of said destination.
11. (previously presented) The method of Claim 1 wherein units are declared to have been lost by virtue of their failure to arrive within some period of time or count of data arrival.
12. (previously presented) The method of Claim 11 further comprising sending a request message for one or more units which have been declared lost.

13. (previously presented) The method of Claim 12 further comprising adding said requested units to said window.
14. (previously presented) The method of Claim 11 further comprising reducing said limiting number of units within said window as a result of said declaring of one or more units to be lost.
15. (previously presented) The method of Claim 1 further comprising increasing said limiting number of units within said window.
16. (previously presented) A method that controls the transportation of an amount of data over a network, wherein, when said amount of data is viewed as being contiguous, such that a next piece of said amount of data is adjacent to a piece of said amount of data from the perspective of said piece of said amount of data, a window that is viewed as being superimposed upon said amount of data defines a specific portion of said amount data based upon a size of said window and a positioning of said window, said method comprising:
- allowing non contiguous portions of said amount of data to be in transit over said network such that:
    - a first portion of said amount of data that is allowed to be in transit within said network can be viewed as being defined by a first window;

a second portion of said amount of data that is allowed to be in transit within said network can be viewed as being defined by a second window, wherein said first and second windows can be viewed as being superimposed upon said amount of data such that a third portion of said amount of data that is not in transit within said network exists between said first window and said second window, said second portion having a next piece of said amount of data from the perspective of a piece of said amount of data that is within said third portion; and

wherein:

- 1) if: said next piece from the perspective of said piece within said third portion arrives at its destination causing said third portion to expand;
- 2) then: a next piece of said amount data from the perspective of said second portion is allowed to be in transit within said network causing said second window to slide.

17. (previously presented) The method of claim 16 wherein all of said amount of data is to be transported from a server to a client over said network.

18. (previously presented) The method of claim 17 wherein at least a piece of said amount data that is within said first portion resides within a reply message that has been sent from said server to said client.

19. (previously presented) The method of claim 17 wherein at least a piece of said amount of data that is within said first portion resides within a first reply message that has been sent from said server to said client and at least a piece of said amount of data that is within said second portion resides within a second reply message that has been sent from said server to said client.
20. (previously presented) The method of claim 19 wherein said second reply message is one reply message of a burst of reply messages.
21. (previously presented) The method of claim 17 further comprising sending a request message from said client to said server for said next piece of said amount data from the perspective of said second portion.
22. (previously presented) The method of claim 21 further comprising starting a timer that measures how long it takes for said next piece of said amount data from the perspective of said second portion to arrive at said destination.
23. (previously presented) The method of claim 16 wherein at least a piece of said amount of data within said first portion is no longer deemed in transit within said network because of the expiration of a timer.

24. (previously presented) The method of claim 22 wherein the measurement by said timer having exceeded a value results in the declaration that said next piece of said amount of data has been lost.
25. (previously presented) The method of claim 16 wherein said next piece of said amount data from the perspective of said second portion is the same size as said piece of said amount of data that arrived at its destination.
26. (previously presented) A method, comprising:
- a) sending a message onto a network from a client to a server that requests a portion of an amount of data from said server wherein the total amount of said amount of data that is:
    - 1) requested by said client from said server through one or more messages and
    - 2) not received by said clientis within a limit that controls how much of said amount of data is in transit on said network, said limit being maintained by said client and,
  - b) starting a timer at said client that times how long it takes for any piece of said portion to be received at said client; and
  - c) sending a second message from said client to said server for another portion of said amount of data, said sending a second message in response to a reception of at least a piece of said portion, said reception occurring no later than an expiration of said timer.

27. (previously presented) The method of claim 26 wherein said another portion is the same size as said at least a piece of said portion.

28. (previously presented) The method of claim 26 wherein the size of said another portion is the minimum of:

- 1) the size of said at least a piece of said portion
- 2) said limit minus an amount of said data that is characterized as being "in transit" on said network.
- 3) a second limit that sets a limit on the maximum amount of data that may be requested by said client in said second message
- 4) a third limit that sets a limit on the maximum amount of said data that may be sent by said server to said client as a result of said server's reception of said second message.

29. (previously presented) The method of claim 26 wherein said client tracks various portions of said amount of data over the course of a transaction in which said amount of data is eventually transported from said server to said client, said various portions being tracked according to the following set of characteristics:

- 1) those one or more portions that have been received from said server before the expiration of its timer.



2) those one or more portions for whom a requesting message has been sent onto said network from said client to said server and whose timer has not yet expired.

3) those one or more portions that are neither characteristic 1) or characteristic 2).

30. (previously presented) A method, comprising:

tracking a plurality of portions of an amount of data over the course of a transaction in which said amount of data is eventually transported from a server to a client, said plurality of portions being tracked by said client consistent with the following set of characteristics:

1) those one or more portions that have been received from said server before the expiration of its timer.

2) those one or more portions for whom a requesting message has been sent onto said network from said client to said server and whose timer has not yet expired.

3) those one or more portions that are neither characteristic 1) or characteristic 2)

wherein when said amount of data is viewed as being contiguous, such that a next piece of said amount of data is adjacent to a piece of said amount of data from the perspective of said piece of said amount of data, a first portion having characteristic 1) is between a second and third portions having characteristic 2).

31. (previously presented) The method of claim 30 further comprising re-characterizing a specific portion of said amount of data from characteristic 2) to characteristic 1) as a result of said specific portion being received at said client, said specific portion being received prior to the expiration of its timer.
32. (previously presented) The method of claim 30 further comprising re-characterizing a specific portion of said amount of data from characteristic 2) to characteristic 3) as a result of said specific portion not having been received at said client after the expiration of its timer.
33. (previously presented) The method of claim 32 further comprising sending another message onto said network from said client to said server that requests said specific portion, and, starting another timer for said specific portion, and, re-characterizing said specific portion from characteristic 3) to characteristic 2).
34. (previously presented) The method of claim 33 further comprising re-characterizing said specific portion from characteristic 2) to characteristic 1) as a result of said specific portion being received at said client, said specific portion being received prior to the expiration of its said another timer.
35. (previously presented) The method of claim 30 further comprising ignoring a second reception of a specific portion from characteristic 1) at said client.

36. (previously presented) The method of claim 30 wherein said characteristic 3) is further resolved into the following characteristics:

3a) those of said portions for whom a requesting message has been sent onto said network from said client to said server and whose timer has expired, but, who are not yet permitted to have another requesting message sent from said client to said server.

3b) those of said portions for whom a requesting message may be sent onto said network from said client to said server.

37. (previously presented) The method of claim 36 further comprising re-characterizing a specific portion from said characteristic 3a) to said characteristic 3b) after a period of time has elapsed beyond the expiration of a timer for said specific portion.

38. (previously presented) The method of claim 36 further comprising re-characterizing a specific portion from said characteristic 3b) to said characteristic 2) as a result of a decision to prepare another requesting message from said client to said server for said specific portion.

39. (previously presented) The method of claim 36 further comprising reducing a limit that limits the combined size of those portions allowed to have characteristic 2) as a result of a specific portion of said amount of data having its timer expire so as to be re-characterized from characteristic 2) to characteristic 3a).

40. (previously presented) The method of claim 39 wherein said reducing is an amount that is the same size as said specific portion.
41. (previously presented) The method of claim 39 further comprising re-characterizing said specific portion from said characteristic 3a) to said characteristic 1) as a result of said specific portion having been received by said client.
42. (previously presented) A machine readable medium having stored thereon a sequence of instructions which, when executed by a processing system, cause said processing system to perform a method, said method, comprising:
- a) sending a message onto a network from a client to a server that requests a portion of an amount of data from said server wherein the total amount of said amount of data that is:
    - 1) requested by said client from said server through one or more messages and
    - 2) not received by said clientis within a limit that controls how much of said amount of data is in transit on said network, said limit being maintained by said client and,
  - b) starting a timer at said client that times how long it takes for any piece of said portion to be received at said client; and

- c) sending a second message from said client to said server for another portion of said amount of data, said sending a second message in response to a reception of at least a piece of said portion, said reception occurring no later than an expiration of said timer.

43. (previously presented) The machine readable medium of claim 42 wherein said another portion is the same size as said at least a piece of said portion.

44. (previously presented) The machine readable medium of claim 42 wherein the size of said another portion is the minimum of:

- 1) the size of said at least a piece of said portion
- 2) said limit minus an amount of said data that is characterized as being "in transit" on said network.
- 3) a second limit that sets a limit on the maximum amount of data that may be requested by said client in said second message
- 4) a third limit that sets a limit on the maximum amount of said data that may be sent by said server to said client as a result of said server's reception of said second message.

45. (previously presented) The machine readable medium of claim 42 wherein said client tracks various portions of said amount of data over the course of a transaction in which said amount of data is eventually transported from said

server to said client, said various portions being tracked according to the following set of characteristics:

- 1) those one or more portions that have been received from said server before the expiration of its timer.
- 2) those one or more portions for whom a requesting message has been sent onto said network from said client to said server and whose timer has not yet expired.
- 3) those one or more portions that are neither characteristic 1) or characteristic 2).

46. (previously presented) A machine readable medium having stored thereon a sequence of instructions which, when executed by a processing system, cause said processing system to perform a method, said method comprising: tracking a plurality of portions of an amount of data over the course of a transaction in which said amount of data is eventually transported from a server to a client, said plurality of portions being tracked by said client consistent with the following set of characteristics:

- 1) those one or more portions that have been received from said server before the expiration of its timer.
- 2) those one or more portions for whom a requesting message has been sent onto said network from said client to said server and whose timer has not yet expired.

- 2) those one or more portions that are neither characteristic 1) or characteristic 2)

wherein when said amount of data is viewed as being contiguous, such that a next piece of said amount of data is adjacent to a piece of said amount of data from the perspective of said piece of said amount of data, a first portion having characteristic 1) is between a second and third portions having characteristic 2).

47. (previously presented) The machine readable medium of claim 46 wherein said method further comprises re-characterizing a specific portion of said amount of data from characteristic 2) to characteristic 1) as a result of said specific portion being received at said client, said specific portion being received prior to the expiration of its timer.

48. (previously presented) The machine readable medium of claim 46 wherein said method further comprises re-characterizing a specific portion of said amount of data from characteristic 2) to characteristic 3) as a result of said specific portion not having been received at said client after the expiration of its timer.

49. (previously presented) The machine readable medium of claim 48 wherein said method further comprises sending another message onto said network from said client to said server that requests said specific portion, and, starting another timer for said specific portion, and, re-characterizing said specific portion from characteristic 3) to characteristic 2).

50. (previously presented) The machine readable medium of claim 49 wherein said method further comprises re-characterizing said specific portion from characteristic 2) to characteristic 1) as a result of said specific portion being received at said client, said specific portion being received prior to the expiration of its said another timer.

51. (previously presented) The machine readable medium of claim 46 wherein said method further comprises ignoring a second reception of a specific portion at said client.

52. (previously presented) The machine readable medium of claim 46 wherein said characteristic 3) is further resolved into the following characteristics:

3a) those of said portions for whom a requesting message has been sent onto said network from said client to said server and whose timer has expired, but, who are not yet permitted to have another requesting message sent from said client to said server.

3b) those of said portions for whom a requesting message may be sent onto said network from said client to said server.

53. (previously presented) The machine readable medium of claim 52 wherein said method further comprises re-characterizing a specific portion from said



characteristic 3a) to said characteristic 3b) after a period of time has elapsed beyond the expiration of a timer for said specific portion.

54. (previously presented) The machine readable medium of claim 52 wherein said method further comprises re-characterizing a specific portion from said characteristic 3b) to said characteristic 2) as a result of decision to prepare another requesting message from said client to said server for said specific portion.

55. (previously presented) The machine readable medium of claim 52 wherein said method further comprises reducing a limit that limits the combined size of those portions allowed to have characteristic 2) as a result of a specific portion of said amount of data having its timer expire so as to be re-characterized from characteristic 2) to characteristic 3a).

56. (previously presented) The machine readable medium of claim 55 wherein said reducing is an amount that is the same size as said specific portion.

57. (previously presented) The machine readable medium of claim 55 wherein said method further comprises re-characterizing said specific portion from said characteristic 3a) to said characteristic 1) as a result of said specific portion having been received by said client.

**COMMENTS**


The enclosed is responsive to the Examiner's Notice of Allowance mailed on 08/03/2004 and is being filed pursuant to a Request for Continued Examination (RCE) as provided under 37 CFR 1.114. Claim 1 has been amended. The Applicant respectfully request reconsideration of the present application and the allowance of claims 1-57

If there are any additional charges, please charge Deposit Account No. 02-2666. If a telephone interview would in any way expedite the prosecution of this application, the Examiner is invited to contact Robert B. O'Rourke at (408) 720-8300.

Respectfully submitted,

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